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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,485	08/17/2001	Shinichi Tsutsumi	SON-2189	3667
23353	7590	12/17/2004	EXAMINER	
RADER FISHMAN & GRAUER PLLC			HASHEM, LISA	
LION BUILDING			ART UNIT	
1233 20TH STREET N.W., SUITE 501			PAPER NUMBER	
WASHINGTON, DC 20036			2645	

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/931,485	Applicant(s) TSUTSUMI, SHINICHI	
	Examiner Lisa Hashem	Art Unit 2645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2 and 4-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 and 4-9 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

FINAL DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. The following title is suggested: 'Intermediate frequency stage and signal processor used in digital portable telephone apparatus'.

Response to Arguments

3. Applicant's arguments, see pages 5-8 of the Amendment, filed August 12, 2004, with respect to claims 2, 4-8, and 9 have been fully considered and are persuasive. Therefore, the rejections of claims 2 and 4-8 have been withdrawn.

Allowable Subject Matter

4. The following is an examiner's statement of reasons for allowance: upon close review of the claims, the prior art, and applicant's remarks it appears that the allowance of claims 2, 4-8, and 9 is appropriate.

Referring to the claimed invention, U.S. Patent No. 6,150,980 by Krasner discloses a method and apparatus for determining the time for a GPS receiver. The first and second receiving systems are processed by individual RF to IF converters as shown in Figure 2. Wherein, the first receiving system inherently comprises a BPSK data stream.

U.S. Patent No. 6,107,960 by Krasner discloses a method and apparatus for reducing cross-interference in a combined satellite positioning system receiver and communication transceiver device. The first and second receiving systems are processed by individual RF to IF converters as shown in Figure 1.

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U.S. Patent No. 6,236,352 by Walmsley discloses a heterodyned double side band duplex radar system, wherein the BPSK modulated signal is processed by an IF stage and then is processed by a signal processing system.

U.S. Patent Application No. 2003/0048834 A1 by Feher discloses spectral efficient transceivers, modem methods, architectures, and implementations for enhanced performance for wireless communications wherein, signals from an antenna module are processed by an IF stage comprising a quadrature demodulator and the output of that signal is processed by a baseband processor via a Bit Rate Agile Interface Unit.

None of the prior art disclose an apparatus an IF stage, that is shared by a first and second receiving system, for receiving a quadrature modulated signal and for receiving a BPSK modulated signal, as claimed in Claims 2 and 9, and wherein the IF stage comprises a variable gain amplifier, as claimed in Claim 2.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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6. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for formal communications intended for entry)

Or call:

(703) 306-0377 (for customer service assistance)

Hand-delivered responses should be brought to: Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa Hashem whose telephone number is (703) 305-4302. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (703) 305-4895. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LH

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December 10, 2004



FAN TSANG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600